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Notice of Allowability

Application No.

10/798,520

Examiner

Huan Hoang

Applicant(s)

SONG, TAE-JOONG

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/29/05.
2. ☒ The allowed claim(s) is/are 1, 2 and 9-21.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Huan Hoang
Primary Examiner
Art Unit 2827

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the claims:

Cancel claims 3-8.

This application is in condition for allowance except for the presence of claims 3-8 to an invention non-elected without traverse. Accordingly, claims 3-8 have been cancelled.

2. The following is an examiner's statement of reasons for allowance:

Claims 1, 2 and 9-21 recite a sense amplifier driver, a memory device, a method of outputting an enable signal a sense amplifier and a method of detecting data.

The prior art does not teach or suggest the following:

a first inverter which receives an input signal and outputs an output signal swung between a ground voltage and a control voltage which is determined by the amount of an off-current flowing through at least one transistor in an inactive memory block; and a second inverter which receives the output signal of the first inverter and delays and buffers the output signal of the first inverter by a period of time inversely proportional to a level of the control voltage.

a delay control signal generation circuit which generates a delay control signal with a voltage determined by the amount of an off-current flowing through at least one transistor; a sense amplifier driver which receives a clock signal, controls a period of time for which the clock signal is buffered according to the voltage of the delay control signal and outputs a sense amplifier enable signal; and a sense amplifier senses and amplifies data of the memory cell array in response to the sense amplifier enable signal.

a delay control signal generation circuit including a dummy bit line and a complementary dummy bit line which are precharged to a predetermined voltage, a plurality of word lines respectively connected to ground voltages, and a plurality of transistors, each transistor having a gate connected to a corresponding word line of the word lines and a first electrode connected to the dummy bit line, a voltage of the dummy bit line being determined according to a voltage drop due to an off-current flowing through the plurality of transistors.

a delay control signal generation circuit having a first electrode precharged to a power voltage, and a gate and a second electrode commonly connected to a ground voltage; a sense amplifier driver which receives a clock signal, controls a period of time for which the clock signal is buffered according to a voltage of the first electrode, and outputs a sense amplifier enable signal.

generating a delay control signal with a voltage determined by the amount of an off-current flowing through at least one transistor; receiving a clock signal, controlling a period of time for which the clock signal is buffered according to the delay signal, and outputting a sense amplifier enable signal.

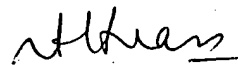
Therefore, the application is in condition for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huan Hoang whose telephone number is (571) 272-1779. The examiner can normally be reached on Mon-Fri 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoai Ho can be reached on (571) 272-1777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Huan Hoang
Primary Examiner
Art Unit 2827